

Establishment of *Chydorus sphaericus* (O.F. Müller, 1785) (Crustacea: Cladocera) in Australia: Consequences of mass fish stocking from Northern Europe?

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Abstract

© 2015, Page Press Publications. All rights reserved. There are 11 species of genus *Chydorus* Leach, 1816 (Cladocera: Chydoridae) in Australia, including populations of *Chydorus sphaericus* (O.F. Müller, 1785) morphologically undistinguishable from European ones. Our genetic study of *C. sphaericus* from two large artificial water bodies in the Adelaide region of South Australia led us to conclude the taxon was introduced to Australia from Europe by human activity, at least in the two studied water bodies. To provide a comprehensive sister-taxa coverage and survey of intraspecific variation, our data were complemented by sequences on *Chydorus sphaericus*-group from GenBank and Barcode of Life Data Systems website. We speculate that it was related to a mass stocking of introduced species of fishes from Europe. To confirm whether *C. sphaericus* is an invasive species due to human-mediated introductions, or whether it is a native Australian taxon, further extensive molecular studies (involving nuclear genes) and detailed morphological comparisons are needed. This is a first report on the invasion of a non-daphniid species of Cladocera to Australia. Its significance for Australian ecosystems needs special future studies.

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Keywords

Australia, *C. sphaericus*, Northern Europe, South Australia